a connecting passage connecting the first and second tanks for transferring the separated diluted etchant from the second tank to the first tank;

an outlet pipe attached to the second tank for discharging the residue material; and

a control unit for receiving a signal indicating the temperature of the etchant from a temperature sensor and transmitting an etching termination signal to the etch bath when the temperature reaches a target temperature;

wherein an etched thickness of the glass substrate is derived from the temperature of the first etchant.

10. (Amended) An etching apparatus for etching a glass substrate with an etchant, comprising:

an etch bath adapted to receive the substrate immersed into the etchant for etching the glass substrate to uniformly reduce a thickness of the glass substrate;

a temperature sensor installed in the etch bath for monitoring a temperature of the etchant while the glass substrate is etched in the etch bath; and

a control unit for receiving a signal indicating the temperature of the etchant from the temperature sensor and transmitting an etching termination signal to the etch bath when the temperature reaches a target temperature;

wherein an etched thickness of the glass substrate is derived from the temperature of the first etchant.

11. (Amended) An etching apparatus for etching a glass substrate comprising:

a first tank including a first etchant;

an etch bath for immersing said glass substrate in said first etchant, said etch bath having a bubble plate, the etch bath being connected to the first tank for receiving the first etchant and adapted to etch the substrate with the first etchant to uniformly reduce a thickness of the glass substrate, the etch both producing a residual etchant including a diluted etchant and residue material as a result of etching the substrate;

a separation tank adapted to receive the residual etchant from the etch bath for separating the diluted etchant from the residue material, the separation tank transferring the separated diluted etchant to the first tank;

a rinse bath for cleaning the glass substrate that is etched in the etch bath;

a dry bath for drying the glass substrate that is rinsed at the rinse bath;

a solvent supply source for supplying solvent water to the first tank;

an etching solution source for supplying an etching solution to the first tank; and

a control unit for controlling the etch bath, the rinse bath, the dry bath, the first tank, and the separation tank;

wherein an etched thickness of the glass substrate is derived from the temperature of the first etchant.

21. (Amended) An etching apparatus for etching a glass substrate comprising:

a first tank including a first etchant;

an etch bath for immersing the glass substrate in the first etchant, the etch bath having a bubble plate for generating nitrogen bubbles, the bubble plate being connected to a nitrogen inlet pipe, the nitrogen inlet pipe being connected to a nitrogen supply line, the etch bath

being connected to the first tank and receiving the first etchant, the etch bath containing a residual etchant including a diluted etchant and residue material after the glass substrate is etched with the first etchant to uniformly reduce a thickness of the glass substrate;

a second tank for receiving the residual etchant from the etch bath and separating the diluted etchant from the residue material;

a connecting passage connecting the first and second tanks for transferring the separated diluted etchant from the second tank to the first tank;

an outlet pipe attached to the second tank for discharging the residue material; and

a control unit for receiving a signal indicating the temperature of the etchant from a temperature sensor and transmitting an etching termination signal to the etch bath when the temperature reaches a target temperature;

wherein an etched thickness of the glass substrate is derived from the temperature of the first etchant.

22. (Amended) An etching apparatus for etching a glass substrate with an etchant, comprising:

an etch bath adapted to receive the glass substrate immersed into the etchant for etching the glass substrate to uniformly reduce a thickness of the glass substrate;

a temperature sensor installed in the etch bath for monitoring a temperature of the etchant while the glass substrate is etched in the etch bath; and

a control unit for receiving a signal indicating the temperature of the etchant from the temperature sensor and transmitting an etching termination signal to the etch bath when the temperature reaches a target temperature,

wherein a reaction heat generated from etching the glass substrate changes the temperature of the etchant;

wherein an etched thickness of the glass substrate is derived from the temperature of the first etchant.

23. (Amended) An etching apparatus for etching a glass substrate comprising:

a first tank including a first etchant;

an etch bath for immersing the glass substrate in the first etchant, the etch bath having a bubble plate for generating nitrogen bubbles, the bubble plate being connected to a first nitrogen inlet pipe, the nitrogen inlet pipe being connected to a nitrogen supply line, the etch bath being connected to the first tank for receiving the first etchant and adapted to etch the substrate with the first etchant to uniformly reduce a thickness of the glass substrate, the etch both producing a residual etchant including a diluted etchant and residue material as a result of etching the substrate;

a separation tank adapted to receive the residual etchant from the etch bath for separating the diluted etchant from the residue material, the separation tank connected to the etch bath via an etchant outlet pipe, the separation tank transferring the separated diluted etchant to the first tank;

a rinse bath for cleaning the glass substrate that is etched in the etc h bath;

a dry bath for drying the glass substrate that is rinsed at the rinse bath;

a solvent supply source for supplying solvent water to the first tank;

an etching solution source for supplying an etching solution to the first tank; and

a control unit for controlling the etch bath, the rinse bath, the dry bath, the first tank, and the separation tank;

wherein an etched thickness of the glass substrate is derived from the temperature of the first etchant.